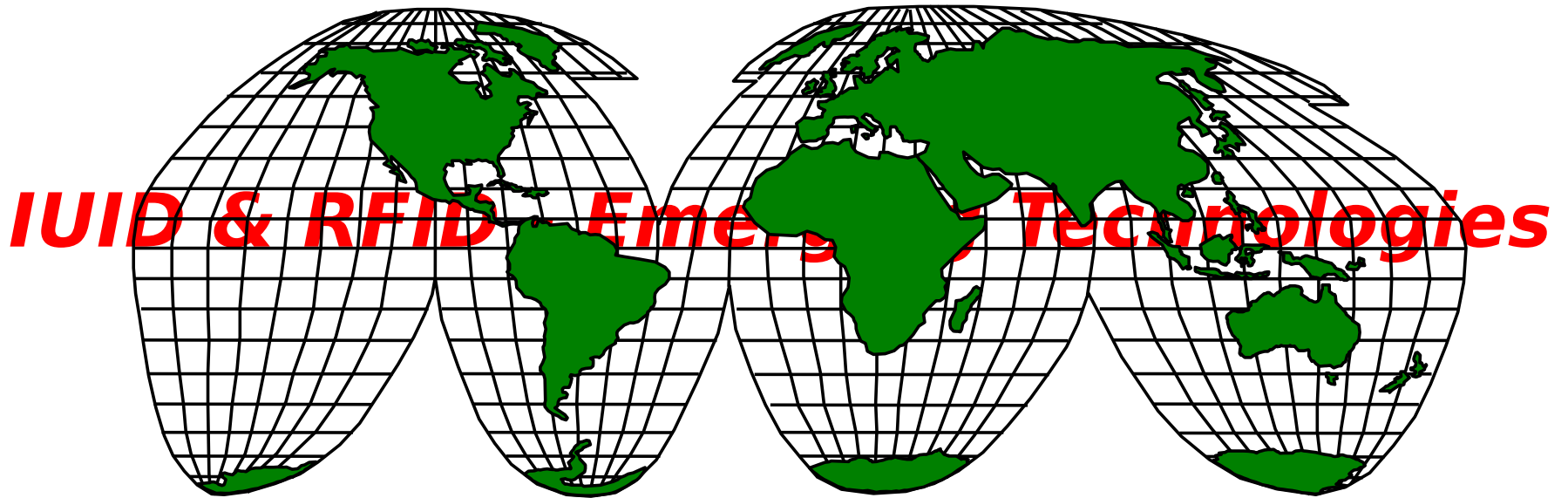




Defense Logistics Management Standards (DLMS) Introductory Training





DLMS Training Catalog

Module 1 - Introduction to the DLMS

Module 2 - Electronic Data Interchange (EDI) Basics and ASC X12 EDI Definitions and Concepts

Module 3 - DLMS Functionality & Transaction Life-Cycle

Module 4 - DLMS Implementation Convention Content

Module 4F - DLMS Functional Financial Transaction Life-Cycle

Module 5 - IUID & RFID - Emerging Technologies

Module 6 - Creating/Reengineering DOD Logistics Business Processes

Module 6A - DLMS Configuration Management (stand alone Module)

Module 7 - Enterprise Interoperability Tools

Module 8 - DoD Activity Address Directory (DoDAAD)

Module 9 - Supply Discrepancy Reporting (SDR)



Module Structure

Module 5 - IUID & RFID - Emerging Technologies

- **Item Unique Identification (IUID)**
- **Radio Frequency Identification (RFID)**



Module 5 Objectives

- **IUID and its relationship to the DLMS**
- **RFID and its relationship to the DLMS**
- **DLMS Transactions supporting IUID and RFID**
- **Data integration of Supply and Transportation information**
- **Establishing parent/child relationship using DLMS transactions**



Unique Item Identification (IUID), Radio Frequency Identification (RFID), & DLMS



IUID, RFID, & DLMS Relationship

- **The IUID is a data set that identifies an instance of an item uniquely from all others even if it is identical to others in all other physical and functional aspects**
- **RFID is an automatic identification method, consisting of a chip and antenna, relying on storing and remotely retrieving data using devices called RFID tags or transponders.**
- **The DLMS X12 EDI and DLMS XML provide the capability to integrate the RFID tag contents with the business data and**

IUID, RFID, and DLMS complement each other in providing business event intelligence across the supply chain

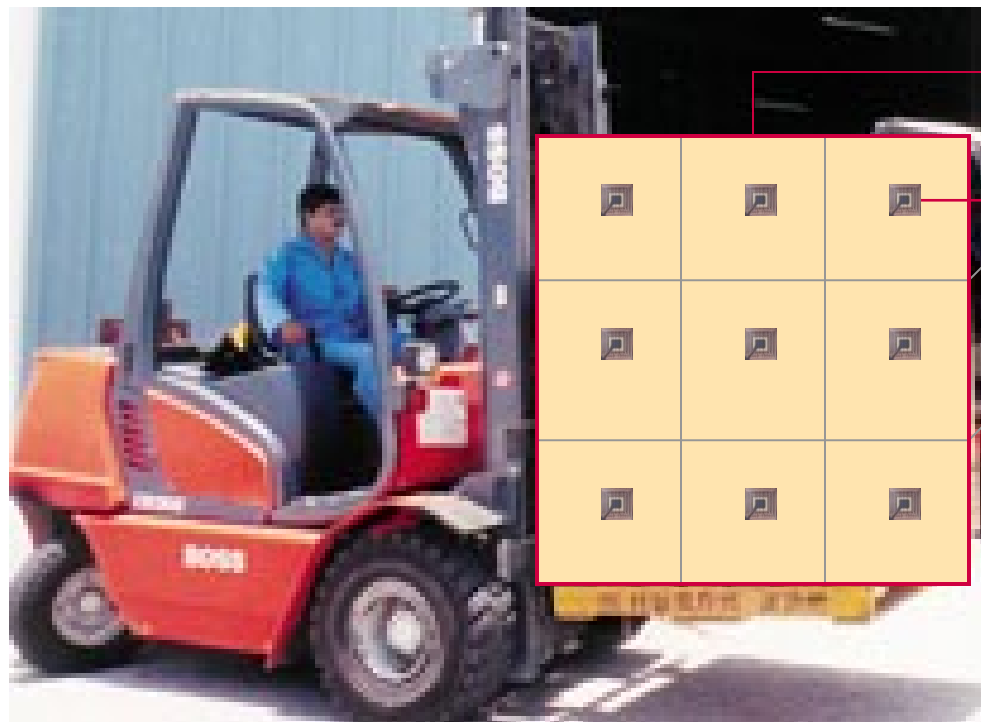


IUID-RFID Policy Relationship

(Example)

Where required: **Passive RFID tags applied at the case, pallet and package layers**

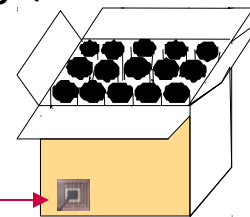
Where required: **IUID attached or directly marked on items using a data matrix to carry the IUID data elements**



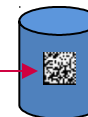
RFID Tag (Pallet Layer)

RFID Tag (Case Layer)

RFID Tag (Item Package Layer)



IUID Data Matrix (Item Layer)





Unique Identification (IUID) of Tangible Items



DOD Vision for IUID

- **Establish a strategic imperative for uniquely identifying tangible items relying to the maximum extent practical on international standards and commercial item markings and while not imposing unique government data requirements.**
- **Unique identification of tangible items will improve:**
 - **Item visibility and tracking across the DOD enterprise**
 - **Product life-cycle item management**
 - **Financial Accountability and valuation of assets**
 - **Clean Audit Opinions on Property, Plant and Equipment & Operating Materials and Supplies**



IUID Policy Overview

- Policy memorandum of July 29, 2003 established IUID as a mandatory DoD requirement on all solicitations issued on or after January 1, 2004.
- DoD Instruction 8320.04, "Item Unique Identification Standards for Tangible Personal Property," June 16, 2008
- Policy memorandum of December 30, 2010, Item Unique Identification (IUID) of Tangible Personal Property - Policy Refinement of DoD Instruction 8320.04 removed the \$5000.00 criteria and limited the requirement for IUID.
- A revised DoD Instruction 8320.04 is currently being drafted to ensure currency and completeness. The policy will include items with a unique item-level traceability requirement at any time in their life cycle, to include, at a minimum: (1) Major End items (2) Depot Level Reparables (3) Nuclear weapons-related materiel (NWRM); (4) Small arms and light weapons; (5) Classified items; (6) Sensitive items; (7) Pilferable items; (8) Critical Safety Items; (9) Items currently serially managed, including items in Unique Item Tracking programs; (10) Warranted items; and (11) Any other item that the materiel manager or program manager decides to serially manage.
- IUID policy for Government Furnished Property (GFP) added DFARS (252.211-7007) in August 2012. Criteria for IUID of GFP may be different from that of items managed through the traditional supply chain.
- Policy continues to evolve! The latest policies and information on IUID can be found at:



Radio Frequency Identification (RFID)



Types of RFID Used in DoD

- **Active RFID - Longer range**
 - ✓ Continuously powered tag; internal power source
 - ✓ Low-level RF signal received by the tag
 - ✓ High-level RF signal back to the reader/interrogator
 - ✓ Usually used for longer tag read distances
 - ✓ Can store 128KB of data, to include tag number
- **Passive RFID - Shorter range**
 - ✓ No internal power source; collects energy from reader
 - ✓ Needs powerful RF signal from reader
 - ✓ Low RF strength signal returned from tag
 - ✓ Preferred for uses when tag and interrogator are close
 - ✓ Stores small amount of data (e.g., tag number)



pRFID - Optimize the Supply Chain

DOD is an early adopter of passive pRFID technology

- **Implement passive RFID Business Rules - 1 Jan 05**
 - ✓ **Passive tagging of materiel shipped to DOD**
- **Initial DOD capability to read passive RFID tags and use data**
- **Published DFARS Rule requiring application of passive RFID**
- **Integrated passive RFID data into the DOD Business Enterprise Architecture (e.g., DLMS)**
- **USTRANSCOM is the DOD functional proponent for AIT**
- **The latest policy and information on DOD's RFID implementation can be found at:**

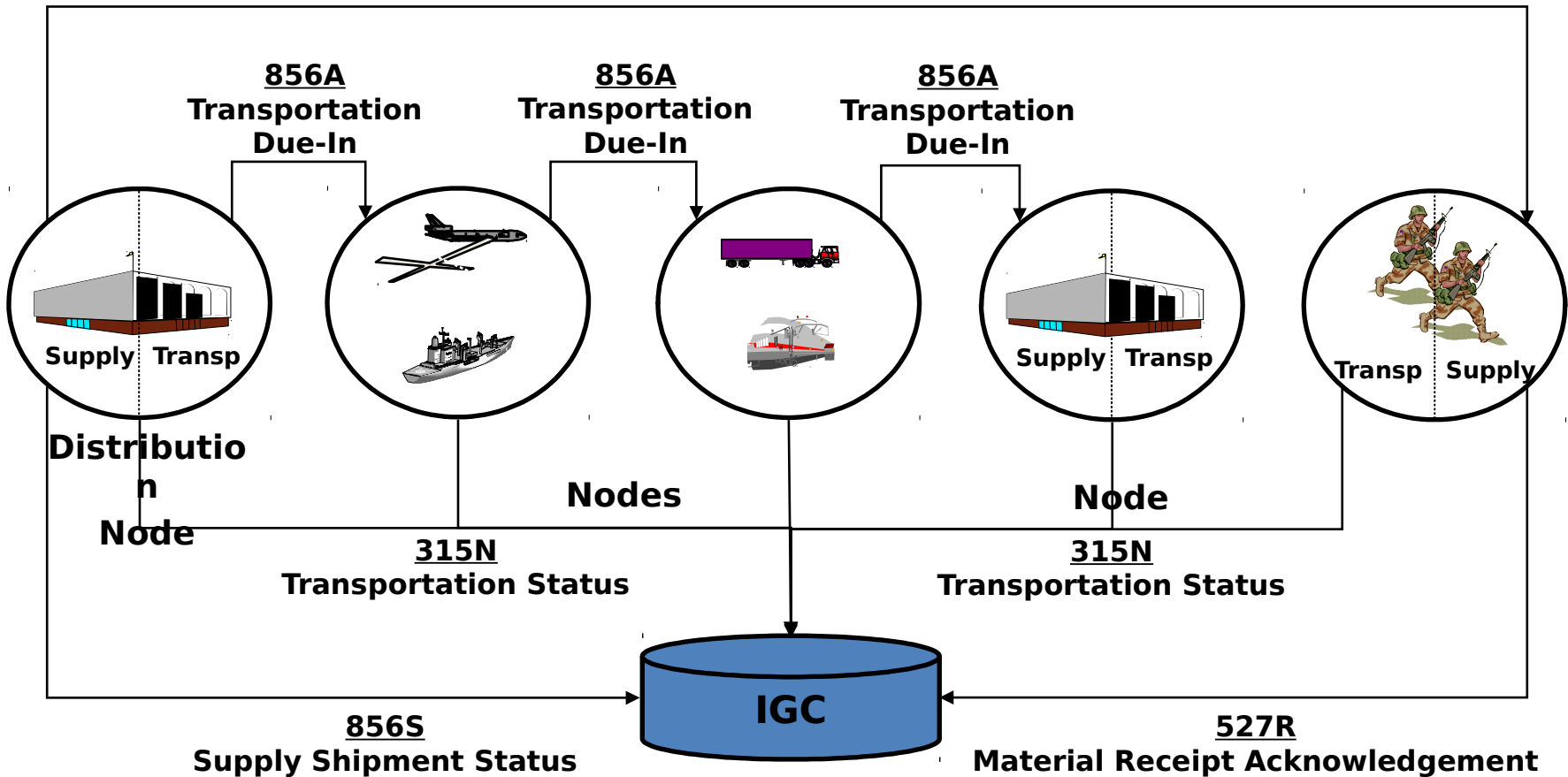
<http://www.acq.osd.mil/log/rfid/index.htm>

- **Hands-Off Data Capture**
- **Improve Data Accuracy**
 - **Improve Logistics Processing Time**
 - **Improve Manpower Utilization**
 - **Enhance Interoperability with Industry**



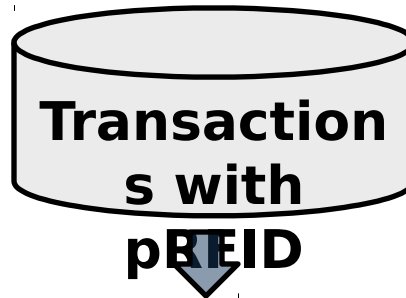
Nodal Asset Visibility

856S Supply Shipment Status



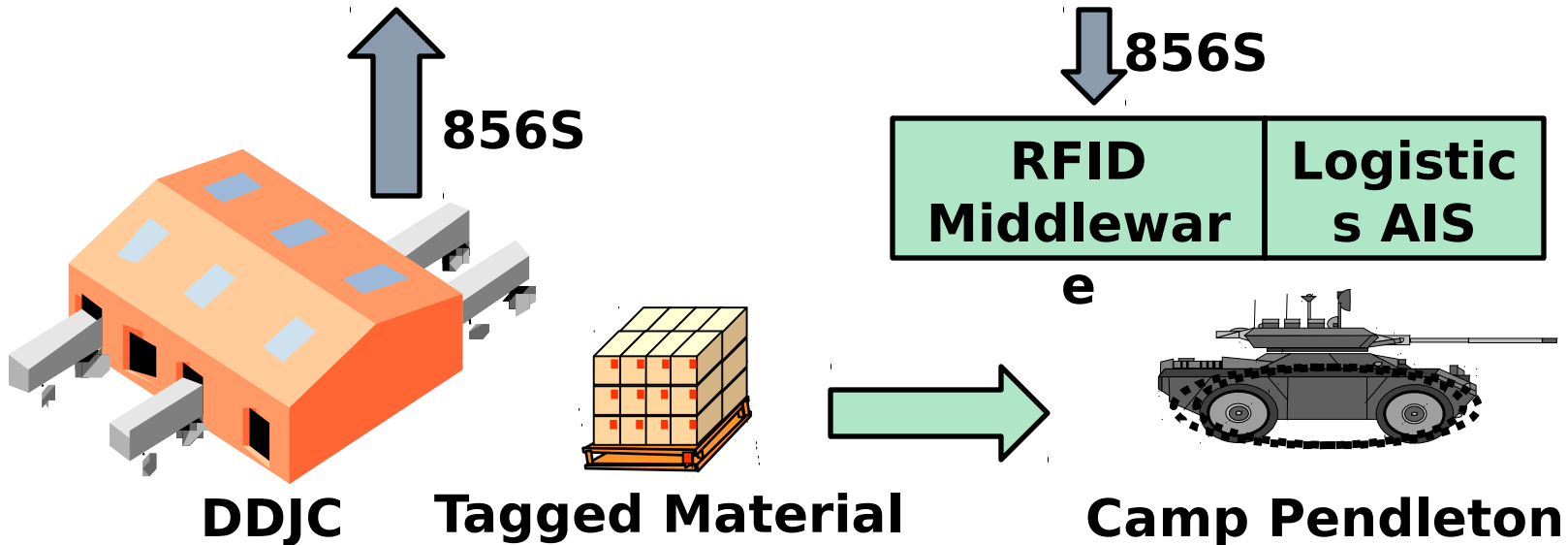


pRFID & DLMS (Supply)



856S:
2F02032533139342DFDC
1C35 is associated to
requisition
V0336552740001

DLA Transaction Services

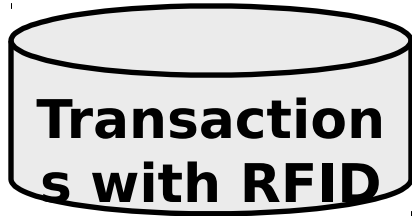


RFID and relevant business information prelodged to the receiving facility.

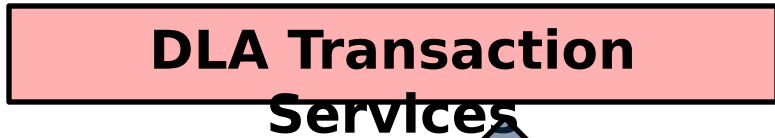
Use to automatically trigger receipt processes upon material arrival.



PRFID & DLMS (Supply)



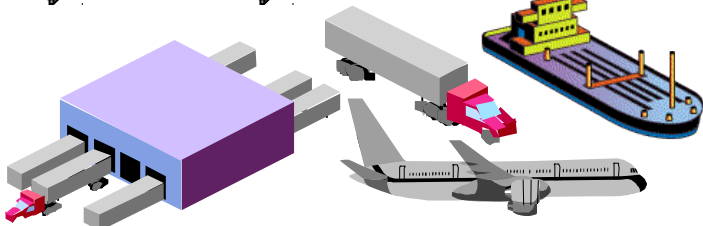
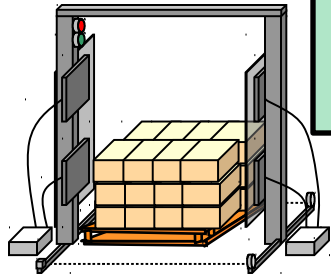
XML Visibility ↑



XML Visibility ↑



e



DDJC - CCP

Data Elements

- RFID Tag # = 2F02032533139342DFDC1C35
- Time Stamp = 7/4/2010 0900
- Location = CCP
- Business Step = Arrived

Report RFID Tag read event data to DAAS

User can query WEBVLIPS or IGC to ascertain last known location of RFID tagged material.



UID, pRFID & DLMS Operating In Concert Can Significantly Enhance

DOD Supply Chain Processes

- Establish initial acquisition cost and subsequent valuations

- Identify a particular item requiring maintenance
- Identify particular problem items to be singled out for removal or upgrade
- Ensure that exact items are returned to the customer
- Locate items for expedited processing
- Maintain a record of items where DOD ownership has ended
- Track a particular item through the entire Supply



DLMS Transactions Supporting IUID

DLMS IMPLEMENTATION CONVENTION

CURRENT STATUS OF IUID ADCs/PDCS

140A	Small Arms Reporting	
180M	Material Returns Reporting	
511M	Requisition Modification	
511R	Requisition	
527D *	Due-in, Advance Receipt, Due Verification	
527R	Receipt	Authorized
527R	Material Receipt Acknowledgement	
810L	Logistics Bill	
842A/W	Supply Discrepancy Report Submission	Authorized for implementation by ADC 1030
842S/Q	Storage Quality Control Report	
842S/R	Storage Quality Control Report Reply	
842P	Product Quality Deficiency Report	Authorized for implementation by ADC 1007
846A	Asset Reclassification	
846F	Ammunition Freeze/Unfreeze	
846I	Asset Status Inquiry/Report	
846R	Location Reconciliation Request	
856	Advance Ship Notice	Authorized for implementation by ADC 129
856R	Shipment Status Materiel Return	Draft PDC in process
856S	Shipment Status	Authorized for implementation by ADC 1030
861	Acceptance Report	Authorized for implementation by ADC 132
867I	Issue	
870M	Material Returns Supply Status	
870S	Supply Status	
940R	Material Release	
945A	Material Release Advice	
940R	Material Release	Draft PDC in process (Distribution code 111 only)
945A	Material Release Advice	Draft PDC in process (Distribution code 111 only)
947I	Inventory Adjustment	

NOTE: Logistics IUID business requirements are under development through a series of IUID Workshops; business rules for implementation will be documented, staffed, and finalized through the DLMS configuration management process. Some transactions on this list may be removed if there is no business requirement.

* DLMS 527D contains a IUID/Rfid indicator(s) capability to alert the receiving activity that the incoming materiel should have IUID and/or passive RFID data IAW the contract.



DLMS Supporting Passive RFID

- 856 Advance Shipping Notice**
- 856R Shipment Status Material Returns**
- 856S Shipment Status**
- XML Reader Registration**
- XML Visibility Response**
- XML Visibility**



Illustrative Examples of IUID and pRFID Transmissions via 856 ASN

The 856 ASN uses a hierarchical structure to convey information and establish relationships:

- **Between the shipment/contract and the individual line items which compose the shipment**
- **Between the CLIN and the uniquely identified items associated with the CLIN**
- **Between the tagged containers (case or pallet) and the number of items or the UII of uniquely identified items they contain**
- **Between tagged containers (cases on a pallet)**



IUID and RFID in 856 ASN

The HL loops are defined as Shipment (DD 250 level) (HL03=S) Address (HL03=V), Line Item (HL03=I), IUID (HL03=D), embedded UII (HL03=E), and pRFID (HL03=P)

- **The IUID loop includes:**
 - ✓ **The SLN segment with IUID pedigree information: acquisition cost, unique item identifier (UII) type, enterprise identifier and original part number, when applicable**
 - ✓ **A separate REF with the UII and serial number for each item with the same pedigree in the SLN**
- **pRFID loop includes:**
 - ✓ **The REF with the RFID tag value and a separate REF for each UII, when applicable -- it tells you which items are in which container**
 - ✓ **The Destination Quantity (SDQ) with the CLIN and the Quantity of that line item packed under the RFID to**



Multiple CLINs in Multiple Cases with Multiple CLINs per Case and Multiple Cases per CLIN on a Pallet

```

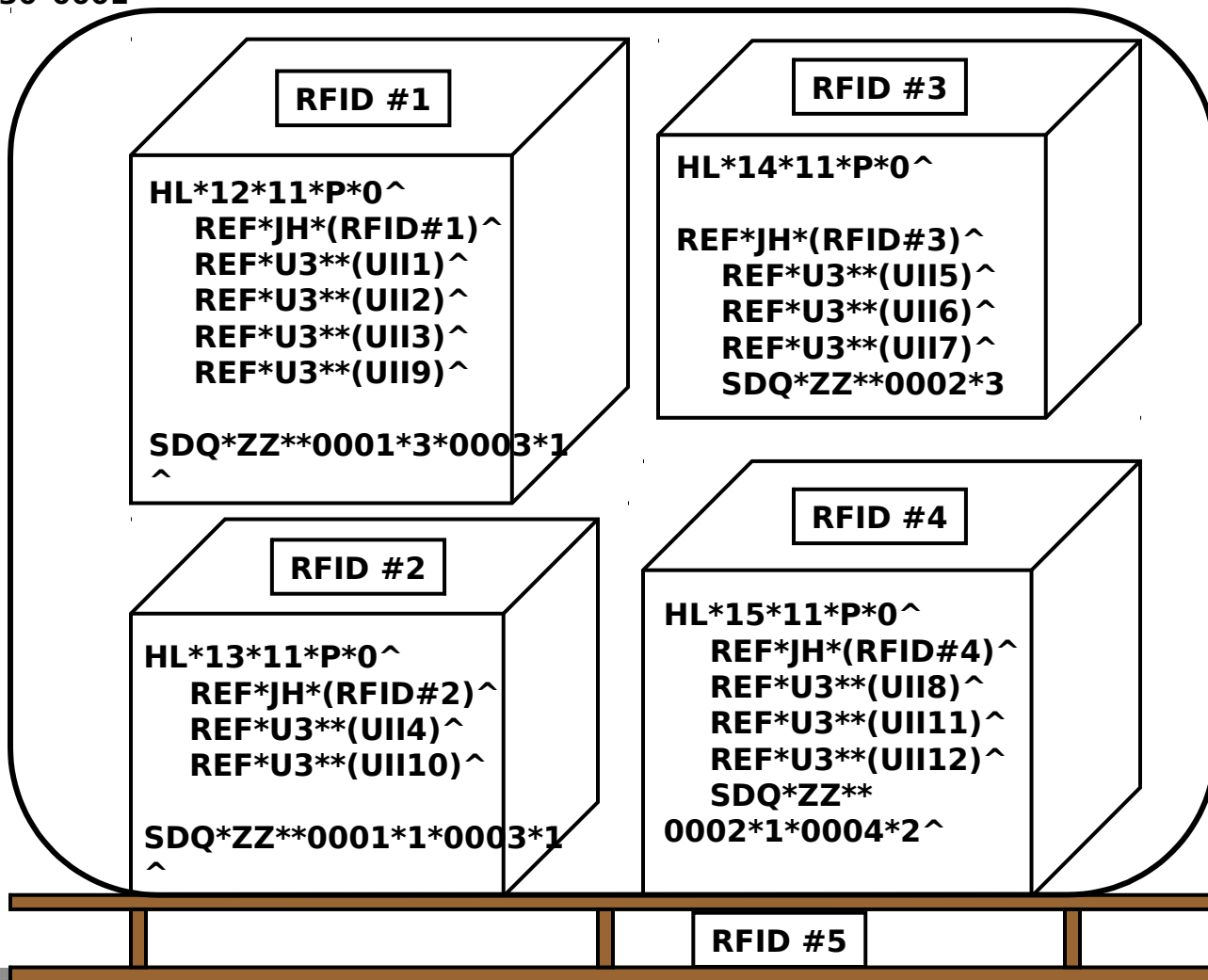
ST*856*0001^
BSN*00*DIS0001*20040720*1130*0001*
AS^
HL*1**V*1^
HL*2*1*S*1^
HL*3*2*I*1^
  LIN*0001*VP*ABC^
  SN1**4*EA^
HL*4*3*D*0^
  SLN*1**O*1*...*D^
  REF*U3*(UII1)^
  REF*U3*(UII2)^
  REF*U3*(UII3)^
  REF*U3*(UII4)^
HL*5*2*I*1^
  LIN*0002*VP*DEF^
  SN1**4*EA^
HL*6*5*D*0
  SLN*1**O*1*...*D^
  REF*U3*(UII5)^
  REF*U3*(UII6)^
  REF*U3*(UII7)^
  REF*U3*(UII8)^
HL*7*2*I*1^
  LIN*0003*VP*GHI^
  SN1**2*EA^
HL*8*7*D*0^
  SLN*1**O*1*...*D^
  REF*U3*(UII9)^
  REF*U3*(UII10)^
HL*9*2*I*1^
  LIN*0004*VP*JKL^
  SN1**2*EA^
HL*10*9*D*0^
  SLN*1**O*1*...*D^
  REF*U3*(UII11)^
  REF*U3*(UII12)^

```

```

HL*11*2*P*1^
REF*JH*(RFID#5)^

```





Module 5 Quiz

Question 1: Which of the following is a key advantage associated implementing and integrating IUID into supply chain processes?

- a) Enhance Total Asset Visibility; Improve Life-Cycle Item Management and Accountability; Improve Data Quality and Interoperability
- b) Clean Audit Opinions on Property, Plant & Equipment, Operating Materials and Supplies
- c) Both a & b

Question 2: What benefits does RFID provide to DOD?

- d) Hands-off data capture
- e) Improve Data Accuracy
- f) Improve Logistics Processing Time
- g) All of the above

Question 3: To improve material visibility across the supply chain which of the following technologies does DOD need to implement?

- h) IUID
- i) RFID
- j) DLMS



End of Module 5